



BOTANIST'S CORNER

by Larry Mellichamp

Botanical History of CP IV: *Heliamphora*

There are many strange plants in the world! A plant may be strange because of how it looks, where it lives, or what it does. Carnivorous plants have always been considered strange for all these reasons. They are usually different looking from "normal" plants; most come from far away places, or habitats regarded as mysterious, inhospitable, and otherwise unusual for normal activities (e.g. bogs); and everyone would agree that catching insects is odd behavior for a plant!

Eventually you find that even within CP as a group, some are more intriguing than others because of some particularly unusual aspect of their existence. In this context I am referring to that singular group of plants in the genus *Heliamphora*, the Marsh Pitchers. Why do they strike people as being stranger than strange? They are among the rarest of CP in cultivation: while they may be easy to grow, they are certainly next to impossible to obtain. This makes them strange — because you never saw one before in real life!

They seem to look like a pitcher plant, with short, tubular water-holding leaves formed in a clump or on a short erect stem; but they have no hood over the pitcher mouth, and the white flowers are born several on a stem and don't really look like the familiar but distinctive *Sarracenia* or *Darlingtonia* flowers. Yet, *Heliamphora* are considered to be primitive forms of pitcher plants that eventually gave rise to the more specialized

types of *Sarracenia* and *Darlingtonia*. This seems contradictory, since *Nepenthes*, with pitchers very similar to *Sarracenia*, are considered totally unrelated to members of the Sarraceniaceae (see CPN Vol. 7, p. 18) while *Heliamphora* are considered quaint members of the Sarraceniaceae. These relationships, Dear Reader, are revealed in details of the flower parts, pollen grains, seeds, internal anatomy of stem and pitcher, etc.

What is most remarkable about *Heliamphora* is where it grows. The six species of *Heliamphora* occur in the remote Guayana Highland in northeastern South America, an area where Brazil, Guyana, (ex-British Guiana), and Venezuela come together. This region is characterized by jungles, rivers, savannahs, and extraordinary sandstone plateau mountains; and has been lavished in mystery and romanticism by famous legends such as the classic story "Lost World" of Sir Arthur Conan Doyle. These spectacular isolated sandstone plateaus, of which the 9,000' Mt. Roraima is the most famous (See photo, p. 87), contain some of the most unusual plants and animals in the world. The 2,000' Roraima Falls is the third highest waterfall in the world. "Seldom do richness of natural history and delightful fantasy of fabulous legend and classic literature so combine to lure attention as they do in the ancient region of Guayana." (Maguire, 1953)

The history of the Guayana Highland commenced soon after Columbus discovered the New World as sailors told stories of the riches and marvels of this far



**Mt. Roraima, from Schomburgk's diary of his Travels, 1841
(Quality is poor because of age of the original.)**

away land. The first thorough explorations of the Guayana Highland began with the travels of the German naturalist Robert Hermann Schomburgk (1804-1865), who, in 1838-39, traversed this wild region by water and on land surveying the natural richness of British Guiana for the Geographical Society of London. It was on this trip that the first *Heliamphora*, *H. nutans*, was discovered, collected, and sent back to George Bentham at Kew Gardens in London for description and naming (see Bentham, 1840). Surprisingly, it was not until *after* this, in 1841, that *Darlingtonia* was discovered in the unexplored wilderness of the American Northwest (See CPN

Vol. 7, p. 83).

The following excerpts from Schomburgk's diary (1841) will give you some of the flavor of the expedition, the appearance of the terrain, and the habitat of the plants:

19th October [1838]. At 2 o'clock in the afternoon, we crossed the Yawaira [River] which flows to the northward and is a tributary of the Caroni: we had therefore now entered the river-basin of the Orinoco that is divided from that of the Amazon stream by the sandstone range that we had just crossed. . . In the neighborhood of an abandoned Indian Village, there showed itself for the first time that remarkable range, the highest summit of which is Roraima. It was enveloped in thick clouds of mist and was situated about 40 miles away to the North Northeast. . .

21st October. The most extraordinary natural wonder of this district was without doubt Roraima which lay about 35 miles distant and was not unlike a huge gloomy rampart enveloped in clouds. . . . After we had again crossed the river, we reached a second Arecuna [Indian] village. They had prepared a feast for us here in advance, because they had been notified of our arrival by messengers. The banqueting and dancing was carried on all night through by the natives who had donned their best decorations. The ever-repeated refrain "Roraima, the red rock, enveloped in cloud, the ever fruitful mother of the torrents" echoed everlastingly in my ears. . . . I never before on any one occasion saw such a quantity of brilliant feather-tufts and head-decorations: truly the whole feathered race must have been requisitioned for its most beautiful plumage! A number of necklaces of monkey or peccary teeth, or spines of the porcupine, with long cotton fringes that again were decorated with squirrel, Toucan, and various other skins, hung down the necks of the dancers. . . .

Shivering with cold, I woke on the morning of the 27th October to find my Indians crouched round a fire. The thermometer registered 58½° Fahr. . . . Mount Roraima was almost continually enveloped in clouds and no day went by but we had a storm. . . .

On the 2nd November we resumed our journey in an easterly direction towards Mount Roraima and crossed many intervening mountain ridges and streams that all flowed towards Yuruani [River]. The vegetation was vigorous only in the vicinity of the river banks; otherwise it was unusually scanty. . . . at 6 o'clock in the evening we were but a mile distant from the perpendicular rocky walls of Roraima, where we pitched camp in a hollow. As the bush, owing to the continuous rain, was uncommonly wet, it was only after many vain attempts that we succeeded in making a fire. Towards midnight, the thermometer registered 59° Fahr. Before sunrise, and for half an hour subsequently, Mount Roraima was free of all clouds and we could see it lying in front of us in all its beauty. It rose 3,700 feet above the Arecuna village Arawayam Botte — its perpendicular walls have a height of 1,500 feet and the summit towers over the village to 5,200 feet. . . . Particularly remarkable are the many waterfalls, which rush down from this immense height, and subsequently flow in different directions towards the three main streams of South America, the Amazon, Orinoco and Essequibo. The four mountains, Roraima, Cukenam, Ayang-Catsibang, and Marima form almost a quadrilateral figure of which Roraima is the highest and most southeasterly

point. . . . Roraima is but rarely free from cloud, and it was only on two occasions that I saw it so. The fact that thick forests extend from its northern spur as far as the coast of the Atlantic Ocean, while immense savannahs stretch to the southward, may perhaps contribute to the continual wet and the numerous thunderstorms that prevail here. Words fail me to describe its thundering and foaming waterfalls that rush down from a height of from 1,400 to 1,500 feet, and which, especially when they are swollen by rain after a thunderstorm, form a truly imposing sight.

In the swampy savannahs at the foot of the mountains grow a number of rare and interesting plants among which a *Utricularia*, that deserves to carry off the prize for this family, especially distinguished itself. I named it after the most distinguished of South America's travellers, after Baron Humboldt. The root is fibrous, and out of it shoots up one or occasionally two reniform leaves. The stalk of a dark purple colour, is from three to four feet high, and carries several lovely purple blossoms 2½ inch in diameter. The under lip falls down like a collar and is some 2 inches wide; the upper lip or hood is wide, flattening out towards the edges, and broader than the palate which it overshadows. Another plant of great interest, the *Heliamphora nutans*, judging by its leaves has much resemblance with the *Nepenthes*, the leaves of which in many respects resemble the *Sarracenia variolaris* [= *S. minor*]: but according to the flower differs from it considerably because it bears several blossoms and has winged seeds. The flower resembles our snow-drop and consists of from four to six petals. Of not less interest to me was a *Cypripedium* [Orchid] that grew amongst the *Utricularia* in the swampy ground: if I mistake not, it is the first South American species. Its hirsute and many leafed stem, 8 feet in height, carried on each flower stalk several blossoms which also were covered with hair. Space does not allow me room to enumerate all the numerous plants that I found in this remarkable area. . . .

(Schomburgk, 1841; translated, 1931)

Throughout the 188 page "Travels," Schomburgk indicates rough conditions, fever and sickness, many new plants, and good rapport with the natives. Above we may notice the open savannah-like habitat of *Heliamphora*, with plenty of moisture and even cool temperatures.

The horticultural world would have to wait until 1881 when David Burke,

one of the most avid collectors for the Veitch Nurseries (see CPN Vol. 8, p. 32), rediscovered *Heliamphora nutans* at Mount Roraima, and successfully introduced living specimens to England. It flowered for the first time in cultivation in June 1889 (Hortus Veitchii, 1906; p. 299). The other 5 species of *Heliamphora* have been discovered on numerous expeditions from the 1930's to the 1960's, many of which involved botanists from the New York Botanical Garden (Maguire, 1953, 1978). Perhaps there are other strange plants to be found in this enticing botanical wonderland.

References:

- Bentham, George. 1840. On the *Heliamphora nutans*, a new Pitcher plant from British Guiana. Transactions of the Linnean Society, London. 18:429-433.
- Maguire, Bassett, *et al.* 1953. The Botany of the Guayana Highland. Memoirs New York Botanical Garden Volume 8, pp. 87-95.
- Maguire, Bassett. 1978. Sarraceniaceae [*Heliamphora*] in The Botany of the Guyana Highland — Part X. Memoirs of the New York Botanical Garden Vol. 29, pp. 36-61.
- Schomburgk, R. H. 1841. Travels in Guiana and on the Orinoco. Leipzig. English translation by Walter E. Roth, Georgetown, British Guiana, 1931.
- Veitch, James H. 1906. Hortus Veitchii. p. 87 & 299.

The Correct Common Name for *Heliamphora*

by Larry Mellichamp

Occasionally the question arises as to the correct common name for plants of the genus *Heliamphora* (Sarraceniaceae). The possibilities are Sun Pitchers or Marsh Pitchers. They have been referred to as the South American Pitcher Plant, which is less colorful but at least unambiguous.

The tendency to refer to them as Sun Pitchers comes from the observation that the generic name seems to be made up of the combination of the Greek word *belios*, meaning "the sun", and the Latin word *amphora*, meaning "a wine jar, or pitcher". Similarly, *Helianthus* is the generic name of Sunflowers, with the Greek word *anthos* meaning "a flower".

On the other hand, the Greek word *belos* means "a marsh"; and in making the generic name, the genitive case *beleos* would have been used. In forming the compound generic name, the masculine -os ending would have been dropped in both cases above, leaving the root to be joined with *amphora*. Thus, *Heleamphora* would have been the "Marsh Pitcher." Either common name is appropriate because the first discovered plants grew

in an open, sunny, marshy savannah (see Botanist's Corner). Upon first encountering the name, I would have preferred to translate it "Sun Pitcher" because it is spelled *Heliamphora* instead of *Heleamphora*.

However, the correct common name is Marsh Pitcher, and we would certainly be confused if it weren't for the fact that George Bentham, the English botanist who named *Heliamphora* in 1840, meant to call it Marsh Pitcher, and says so in the description: "I now proceed to give the technical character of the *Heliamphora nutans*, of which I have derived the name from 'ἑλος, a marsh, and ἀμφορεῖν, a pitcher". He may have changed the spelling to make it easier to pronounce, otherwise the reason is unclear.

The translation of the generic name is unfortunately misleading and could be interpreted correctly in either context (sun or marsh). The fact, however, that Bentham explained the name "Marsh Pitcher" is proof enough for its correctness.